

What Is Claimed Is:

1. A fuel injection system for an internal combustion engine, in particular a diesel engine, having at least two cylinders, the fuel injection system including at least two actuator elements, and at least one actuator being assigned to each cylinder for injecting fuel into the cylinder, and the fuel injection system having an injection regulating system for monitoring and/or resolving a conflict when triggering the actuator elements, wherein the injection-regulating system triggers the actuator elements earlier and/or later or not at all as a function of charging and/or discharging edges of the injection elements during injections.
2. The fuel injection system as recited in Claim 1, wherein the actuator elements are piezoelectric elements.
3. The fuel injection system as recited in Claim 1, wherein the actuator elements are solenoid valves.
4. A fuel injection system for an internal combustion engine, in particular a diesel engine, having at least two cylinders, the fuel injection system including at least two piezoelectric elements, and at least one piezoelectric element being assigned to each cylinder for injecting fuel into the cylinder through charging or discharging of the piezoelectric element, and a single supply unit for charging or discharging the piezoelectric element being assigned to the piezoelectric elements, the fuel injection system having an injection-regulating system for monitoring a possible overlapping of a time interval in which one piezoelectric element is to be charged or discharged with a time interval in which the other piezoelectric element is to be charged or discharged, and different priorities being assigned to at least two injections in such a way that one injection (high-priority

injection) is assigned a higher priority than at least one other injection (low-priority injection), wherein the injection-regulating system advances and/or retards the injection of the same or different priority and/or cancels it altogether as a function of charging and/or discharging edges of the injection elements during injections, so that one piezoelectric element is not charged if the other piezoelectric element is to be charged or discharged.

5. A method for operating a fuel injection system for an internal combustion engine having at least two cylinders, in particular for the operation of a fuel injection system as recited in one of the previous claims, the fuel injection system having at least two actuator elements, and at least one actuator element being assigned to each cylinder for injecting fuel into the cylinder, and possible conflicts during triggering of the actuator elements being monitored and/or resolved, wherein the actuator elements are triggered earlier and/or later or not at all as a function of the time characteristic of charging and/or discharging edges of the injection elements during injections.
6. A method for operating a fuel injection system for an internal combustion engine having at least two cylinders, in particular for operation of a fuel injection system as recited in Claim 4, the fuel injection system having at least two piezoelectric elements, and at least one piezoelectric element being assigned to each cylinder for injecting fuel into the cylinder through charging or discharging of the piezoelectric element, and a supply unit for charging or discharging the piezoelectric element being assigned to the piezoelectric elements, and monitoring being performed to determine whether overlapping of a time interval occurs in which one piezoelectric element is charged or discharged with a time

interval in which the other piezoelectric element is to be charged or discharged,
wherein an injection of the same or a different priority is advanced and/or retarded and/or cancelled as a function of charging and discharging edges of the injection elements during an injection in such a way that one piezoelectric element is not charged if the other piezoelectric element is to be charged or discharged.

7. The method as recited in Claim 6,
wherein the shift is effected as a function of the
priority of the injections.
8. The method as recited in Claim 6,
wherein the shift is effected independently of the
priority of the injections.
9. The method as recited in one of Claims 6 through 8,
wherein the shift is effected as a function of the type
of overlapping of at least two injections.
10. The method as recited in one of Claims 6 through 8,
wherein the shift is effected independently of the type
of overlapping of at least two injections.
11. The method as recited in one of Claims 6 through 10,
wherein the shift is effected as a function of the type
of injection (pilot injection, main injection or post-injection).
12. The method as recited in one of Claims 6 through 11,
wherein the shift is effected as a function of previous
shifts.
13. The method as recited in one of Claims 5 through 12,
wherein the shift for singular primary or secondary
collisions is effected on the basis of one of the
following measures:

- a) advancing the low-priority edge, or
 - b) retarding the low-priority edge, or
 - c) advancing the higher-priority edge, or
 - d) retarding the higher-priority edge, or
 - e) advancing the higher-priority edge, simultaneously
retarding the low-priority edge, or
 - f) retarding the higher-priority edge, simultaneously
advancing the low-priority edge, or
 - g) retarding the higher-priority edge, simultaneously
retarding the low-priority edge, or
 - h) advancing the higher-priority edge, simultaneously
advancing the low-priority edge.
14. The method as recited in one of Claims 5 through 13,
wherein the edges not involved in the overlapping are
advanced or retarded or left unchanged.
15. The method as recited in one of Claims 5 through 14,
wherein in the case of a multiple primary or secondary
collision the shift is effected by meeting the following
boundary conditions:
- a) each of the overlapping edges may be advanced or
retarded;
 - b) not all overlapping edges must be shifted;
 - c) after a shift, the previously overlapping edges are
non-overlapping, so that the time interval in which

one piezoelectric element is to be charged or discharged does not overlap with the time interval in which the other piezoelectric element is to be charged or discharged;

- d) in addition, edges not involved in the overlapping may be advanced or retarded.